

12. (NEW) The device of claim 10, wherein said second body has a zero displacement at the end time.

13. (NEW) The device of claim 10 further comprising elastic mounts coupled to said base.

14. (NEW) A device, comprising:

a base;

a first body coupled to said base;

a second body coupled to said first body;

an actuator coupled to said body; and,

calculation means for generating a control command to said actuator, said control command induces a force profile that causes said first body to move from a start position at a start time to an end position at an end time, so that said base has a zero displacement at the end time.

15. (NEW) The device of claim 14, wherein the force profile is dependent upon an intermediate variable and derivatives of the intermediate variable.

16. (NEW) The device of claim 14, wherein said second body has a zero displacement at the end time.

17. (NEW) The device of claim 14, further comprising elastic mounts coupled to said base.

18. (NEW) A device, comprising:

a base;

a first body coupled to said base;

a second body coupled to said base;

an actuator coupled to said body; and,

a computer that provides a control command to said actuator, said control command induces a force profile that causes said first body to move from a start position at a start time to an end position at an end time, so that said base has a zero displacement at the end time.

19. (NEW) The device of claim 18, wherein the force profile is dependent upon an intermediate variable and derivatives of the intermediate variable.

20. (NEW) The device of claim 18, wherein said second body has a zero displacement at the end time.

21. (NEW) The device of claim 18, further comprising elastic mounts coupled to said base.

22. (NEW) A device, comprising:

a base;

a first body coupled to said base;

a second body coupled to said base;

an actuator coupled to said body; and,

calculation means for generating a control command to said actuator, said control command induces a force profile that causes said first body to move from a start position at a start time to an end position at an end time, so that said base has a zero displacement at the end time.

23. (NEW) The device of claim 22, wherein the force profile is dependent upon an intermediate variable and derivatives of the intermediate variable.

24. (NEW) The device of claim 22, wherein said second body has a zero displacement at the end time.

25. (NEW) The device of claim 22, further comprising elastic mounts coupled to said base.

26. (NEW) A method for moving a first body relative to a base, wherein a second body is coupled to the first body, comprising:

calculating a control command to move the first body relative to the base; and  
exerting a force onto the first body, the force having a force profile that causes the first body to move from a start position at a start time to an end position at an end time, so that the base has a zero displacement at the end time.

27. (NEW) The device of claim 26, wherein the force profile is dependent upon an intermediate variable and derivatives of the intermediate variable.

28. (NEW) The device of claim 26, wherein said second body has a zero displacement at the end time.

29. (NEW) A method for moving a first body relative to a base, wherein a second body is coupled to the base, comprising:

calculating a control command to move the first body relative to the base; and,  
exerting a force onto the first body, the force having a force profile that causes the first body to move from a start position at a start time to an end position at an end time, so that the base has a zero displacement at the end time.

30. (NEW) The device of claim 29, wherein the force profile is dependent upon an intermediate variable and derivatives of the intermediate variable.

31. (NEW) The device of claim 29, wherein said second body has a zero displacement at the end time.